United States Environmental Protection Agency
Region V
Hazardous Waste Management Division
Five-Year Review

Southeast Rockford Groundwater Contamination Site - Operable Unit #1

Rockford, Illinois

I. Introduction

On behalf of the United States Environmental Protection Agency Region V (U.S. EPA), the Illinois Environmental Protection Agency (Illinois EPA) has conducted this five year statutory review for the remedy noted above pursuant to CERCLA Section 121(c), NCP Section 300.400(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1991), 9355.7-02A (July 26, 1994), and 9355.7-03A (December 21, 1995). The purpose of this five-year review is to ensure that a remedial action remains protective of human health and the environment and is functioning as designed. This document will become a part of the Southeast Rockford Groundwater Contamination Site Administrative Record and will be made available in both public repositories for review. This review (Type 1a) is applicable to a site at which response actions are ongoing.

The Southeast Rockford Groundwater Contamination Site (Site) as noted in the Federal Register was originally listed as an area of about 0.7 square miles. Several investigations have since defined a larger area of groundwater contamination and as a result, the Site now encompasses about three square miles. Land use at the Site is mainly residential but significant industrial and commercial developments are also present. The population within one mile of the Site is approximately 52,000.

The primary Site contaminants are chlorinated solvents and their associated degradation products in soil and groundwater. Trichloroethene, tetrachloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene and vinyl chloride have been found in residential wells at high concentrations. Very high levels of these contaminants have also been identified in groundwater monitoring wells as well as at four identified source areas of this groundwater contamination. Households that had utilized potable water from highly contaminated wells have since been placed on the municipal water supply in two actions described below.

The first action was performed as a time-critical removal action by the U.S. EPA. In this action, 283 residents received service connections to the municipal water supply by late 1991 after having been previously supplied with bottled water and point-of use carbon filters. As the subject of this five-year review, a second action (Operable Unit #1) to address the more chronic health effects of the Site's groundwater contamination was initiated in a Record of Decision (ROD) that was signed on June 14, 1991. In this action, 264 homes received municipal water service connections and a granular activated carbon treatment unit was installed as a temporary measure on a municipal water supply well that was closed because of Site-related groundwater contamination. The Operable Unit #1 action was completed in December of 1992. In both actions, residents were required to abandon their wells prior to receiving hookups.

On September 29, 1995 a ROD governing a second groundwater operable unit action was signed. This action called for hookups to an additional estimated 400 homes and businesses whose wells recently exceeded health standards or were predicted to exceed them over a lifetime. Also, the carbon treatment unit installed in Operable Unit #1 was made permanent, a groundwater monitoring program was established and measures were initiated to address soil contamination under a future operable unit. Construction activities associated with the second groundwater operable unit will likely be completed by no later than the end of 1998. The third and final operable unit (addressing contaminated soils) should be finalized by late 1998 as well.

II. Discussion of Remedial Objectives

The only remedial objective that was stated in the Operable Unit #1 ROD summary was to "eliminate present and potential threat(s) to public health". Since investigations performed prior to this ROD consisted of the evaluation of groundwater samples from residential wells, it is understood that the elimination of these threats pertains to the elimination of groundwater exposures that would pose actual or potential human health threat(s). Pursuant to a Feasibility Study that was completed prior to the initiation of the Operable Unit #1 ROD, the evaluation of remedies entailed replacing the contaminated residential water supply (e.g. the residential wells) with a more reliable source of drinking water (e.g. City of Rockford municipal water). Overall, it appears that the remedial objective noted in the Operable Unit #1 ROD has been fulfilled.

Primary ARARs identified with the selected remedy of the Operable Unit #1 ROD included the Safe Drinking Water Act (40 CFR 141) and the Resource Conservation and Recovery Act (40 CFR 261-264). Pursuant to NCP Section 300.510(c)(2), Illinois EPA assumed responsibility for operation and maintenance (O&M) activities associated with the Operable Unit #1 ROD. Several O&M activities that include the distribution of potable water for residents receiving hookups to the municipal water supply were delegated to the City of Rockford. As such, the City of Rockford has agreed to assume the responsibility of assuring that only water meeting Maximum Contaminant Levels (MCLs) of the Safe Drinking Water Act would be distributed to residents that received hookups to the City's municipal water supply pursuant to the Operable Unit #1 ROD. The City has indicated that based on routine sampling (e.g. monthly), no violations of MCLs have occurred anywhere in their water distribution system which serves the above-mentioned residents over the past five years. Sampling analyses are available upon request.

Resource Conservation and Recovery Act (RCRA) ARARs noted above govern the replacement of spent carbon from the municipal water supply well that was fitted with the granular activated carbon treatment unit pursuant to the Operable Unit #1 ROD. This well (Unit Well #35) has only been used as a standby well over the past five years and a carbon changeout has not been needed because the carbon has been used less frequently than anticipated. A review of RCRA ARARs was therefore not necessary.

Pursuant to the existing O&M plan, weekly sampling of the influent and effluent was required at Unit Well #35 because of its location within the Site and for the evaluation of the effectiveness of carbon treatment. The City has indicated that no violations of MCLs have occurred in the well's effluent as it entered their water distribution system.

III. Recommendations

The Operable Unit #1 ROD specifically stated that remediation of the groundwater contaminant plume and remediation of the source area(s) of associated groundwater contamination would be addressed in subsequent RODs. It is anticipated that the response actions brought to light by the Operable Unit #2 ROD (and eventually by the Operable Unit #3 ROD) will adequately address these issues. Exclusive of work to be performed in the second and third operable units, no further corrective actions are thereby recommended as a result of this five year review.

IV. Statement on Protectiveness

It is hereby certified that the remedy selected for this site as part of the Operable Unit #1 Record of Decision finalized on June 14, 1991, remains protective of human health and the environment.

V. Next Five Year Review

The next five year review will be conducted by no later than five years after the signature date noted below. It is anticipated that the next five year review for Operable Unit #1 will be performed ~~with~~ simultaneously with the five year review for the Operable Unit #2 action.

Wm. E. Muno

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1/15/98

Date